

SOME NEW GEOMETRIDAE AND DIOPTIDAE IN  
THE JOICEY COLLECTION.

BY LOUIS B. PROUT, F.E.S.

Family GEOMETRIDAE.

Subfamily OENOCRROMINAE.

1. *Ozola eurycraspis* sp. nov.

♀, 29 mm.

Head and body ochreous. Legs slightly spotted with fuscous.

Fore wing narrow, apex slightly produced, termen gently sinuous, scarcely excised, whitish ochreous with scattered dark dots; costal margin dark from base to antemedian line, which is placed just proximal to one-third, thick anteriorly, bent in cell, then oblique inward and slender; a dark border, considerably broader than that of *atrofasciata* Pagenst. (just entering the cell), containing—as in that species—apical and mid-terminal spots. Hind wing with termen smooth; antemedial line vague, anteriorly obsolete; border broader than in *atrofasciata*, containing a slight pale terminal spot behind R<sup>3</sup>.

Underside similar.

Tenimber.

All the dark markings are more marked with reddish than in *atrofasciata*.

Subfamily HEMITHEINAE.

2. *Hipparchus euryagyia* sp. nov.

♀, 60 mm.

Head green. Palpus mostly light reddish-brown. Antenna white. Thorax and abdomen whitish-green, the patagia and tegulae greener.

Fore wing with apex minutely falcate, termen smooth, very gently concave anteriorly and convex in the middle; green, with costal margin and veins broadly white, as in *albovenaria* Brem.; discocellulars also

white; lines white, even broader than in *albovenaria*; antemedian straight, from one-fourth costa to beyond one-third hindmargin; postmedian at about three-fifths, incurved at costa, otherwise straight; subterminal scarcely less broad than the others, forming an extremely slight inward curve, from costa near to apex to hindmargin at tornus; fringe whitish-green. Hindwing with termen almost smooth, no angle or bend at  $R^3$ ; veins less broadly white than on fore wing; abdominal margin white; postmedian and subterminal lines (bands) continued, the former from mid-costa to threequarters abdominal margin, the latter straight from costa close to apex to tornus.

Underside with hindmargin of fore wing and proximal part of hind wing whiter; the white veins (on fore wing narrower than above) and transverse markings reproduced, the antemedian of fore wing feeble.

Yunnan: Tali. Type in coll. Joicey, ex coll. Brabant (labelled *glaucaria* Ménétr.).

As in *albovenaria*, the green ground-colour is slightly intensified against the white lines.

3. *Aporandria specularia* (Guen.) haplograptæ subsp. nov.

♀, 60 mm.

Fore wing rather paler green than in *specularia*, without the shadowy lines, unicolorous except for the small red black-mixed cell-dot. Hind wing with the yellow proximal shading scarcely different above, and with the reddish disocellular patch reduced to an elongate mark of about the size of that of *Ornithospila lineata*, pale and inclining to buff distally, with a few blackish scales proximally and slightly swollen at the middle of  $DC^3$  where it contains a small red, black-mixed dot, corresponding to the more conspicuous black dot of the name-type; the shadowy line wanting.

Cochin China: Saigon. Ex coll. Brabant.

Unfortunately the sole example known from the country, perhaps a mere aberration. So far as hitherto observed, *A. specularia* does not vary very much throughout its known range—India, Malay Peninsula, Sumatra, Java, Borneo, Celebes, Sula.

4. *Victoria barlowi* sp. nov.

♂, 38 mm.

Closely similar to the W. African *immunifica* Prout, of which it may prove to be a subspecies. Differing as follows:—

Face and outer side of palpus ochreous, somewhat mixed with red-brown. Crown green, very narrowly white in front. Antennal shaft pale ochreous. Abdomen dorsally green, only with a slight patch of ochreous in the region of the anterior crests (these somewhat damaged, apparently mixed of white, ochreous and red-brown).

Fore wing with costal edge narrowly ochreous, instead of broadly reddish; terminal line and fringe similarly ochreous, but with a slight irroration of dark red-brown. Hind wing with fringe corresponding to that of fore wing.

Zomba Plateau, Nyasaland, November, 1920 (H. Barlow).

The Joicey collection has a couple of typical *immunifica* from Gambia; the originals were from Sierra Leone.

5. *Chlorodrepana aequisecta* sp. nov.

♂, 30 mm. Differs from *rothi* Warr. as follows:—

Fore wing with the pale costal border mottled with green; proximal green area bounded by a stronger dark line, which follows a different course from that of *rothi*, being slightly farther than termen anteriorly than posteriorly, only very bluntly bent outward at  $R^1$ , slightly incurved between the radials, bluntly prominent at  $R^3$ , and scarcely incurved posteriorly; distal area weakly marked, terminal dots almost obsolete. Hind wing with apex and termen more rounded; red costal patch rather brighter; boundary of green area showing corresponding distinctions to these of the fore wing; terminal line more interrupted than in *rothi*.

Both wings beneath less darkened than in *rothi*, the postmedian band of the fore wing parallel with the subterminal, not—as in *rothi*—more oblique.

Bitje, Ja River, Cameroons, May and June, wet season (G. L. Bates).

6. *Prasinocyna trifilifimbria* Prout *leucopis* subsp. nov.

♂. 34—37 mm. Face predominantly white, leaving only a small upper part (rather less than one-third) red. Vertex also with the white much extended.

Fore wing with costal edge beneath more reddish.

Nyasaland: Zomba, May, 1920 (H. Barlow). A second, rather defective ♂, labelled "Nyassa (Smith)," has long stood in the Joicey collection.

*P. trifilifimbria trifilifimbria*, from West Africa, has, like so many

of the family, a very narrow white lower edge\* to the face, not noticed in the original description.

*Leucaniodes* gen. nov.

Face rounded, somewhat prominent, with appressed scales. Tongue wanting. Antenna in ♀ rather short, bipectinate almost to apex. Pectus moderately hairy. Femora nearly glabrous. Hind tibia with all spurs. Tarsi not spinulose. Thorax and abdomen not crested. Frenulum (in ♂ ?) in ♀ wanting, the hind wing with basal expansion.

Fore wing narrow, costa very gently curved near base, then almost straight, apex almost rectangular, termen vertical to  $R^3$ , strongly oblique posteriorly; cell over one-half,  $DC^3$  slightly incurved anteriorly, then strongly oblique; C well free,  $SC^{1-2}$  long-stalked,  $SC^2$  approaching but not touching  $SC^{3-4}$ , stalk of  $SC^{3-5}$  from well before end of cell, position of  $R^2$  not extreme,  $M^1$  remote from  $R^3$ . Hind wing long and narrow, apex pronounced, termen straightish anteriorly, becoming gently curved posteriorly, tornus rounded; cell almost one-half,  $DC^3$  oblique; C anastomosing with SC to near end of cell,  $SC^2$  stalked,  $R^2$  from slightly before middle of DC,  $M^1$  remote from  $R^3$ .

Type of the genus: *Leucaniodes periconia*, sp. nov.

A very distinct genus. Only two Hemitheine genera hitherto known (*Alloeopage* and *Cacochloris*) have  $SC^2$  arising from  $SC^1$ —probably by obsolescence of its base. *Alloeopage* belongs to my Group iv, with well-developed frenulum; from *Cacochloris* the new genus—even if the ♂ frenulum prove wanting—differs totally in palpus, in shape, in anastomosis of C with SC on hind wing, and other characters. I suspect it may have originated from the *Omphax* group.

7. *Leucaniodes periconia* sp. nov.

♀, 34 mm.

Head and body concolorous with wings.

Fore wing whitish, cleanest on the veins and a longitudinal streak in front of M from base to end of cell, otherwise tinged with smoky brown; a brighter brown shade behind M from base to origin of  $M^2$ ; no definite markings, but the wing nearly covered with fine longitudinal lines of grey-brown irroration, giving the effect of alternate ridges and furrows, much as in many of the *Leucania* group, *Chilo* and other species which rest on dry grass or reeds; terminal line suggested, but not distinct; fringe concolorous. Hind wing white.

Underside similar, but with the fore wing slightly darker anteriorly, paler posteriorly, and lacking the white and brown streaks at M.

S. W. Protectorate, South Africa, without more exact locality.

8. *Maxates dysides* sp. nov.

♀, 42 mm.

Palpus long, second joint reaching beyond frons, third joint slender, as long as second.

Similar to *macariata* Walk. Wings rather broader. Fore wing with termen rather less oblique, not excised between the radials; distal boundary of the green area less oblique than termen, rather more deeply incurved between the radials; shadowy (on underside distinct) subterminal band less broad, but continuing (though tapering) to costa. Hind wing with tail rather less long; distal boundary of green area much less produced at M<sup>1</sup>, blunter; subterminal band less broad proximally, marked with elongate black (beneath weaker) marks before and behind R<sup>2</sup>.

Lebong Sankei, Benkoelen, S. W. Sumatra.

*Leptocolpia* gen. nov.

Face smooth. Palpus short. Tongue wanting (?). Antenna in ♂ bipectinate. Pectus hairy. Femora scarcely hairy. Hind tibia of ♂ dilated, with hair pencil; all spurs present, rather short, rather approximated. Abdomen not appreciably crested. Frenulum in ♂ moderately strong, from before basal expansion of hind wing. Fore wing rather narrow, with costa gently arched. Apex acute, termen slightly waved, very slightly subconcave to R<sup>3</sup>, here sharply angled, posteriorly extremely oblique; cell rather less than one-half, DC deeply incurved very oblique posteriorly, SC<sup>1</sup> anastomosing with C, SC<sup>2.5-3.4</sup> rather long stalked, R<sup>1</sup> about connate, M<sup>1</sup> approximated at base to R<sup>3</sup>. Hind wing with costa rather long, apex rounded, termen waved, produced to rather strong teeth at R<sup>1</sup> and R<sup>3</sup>, with a shallow sinus between them, tornus moderate; cell less than half, DC incurved, oblique posteriorly; C very slightly approximated to cell near base, rapidly diverging, SC<sup>2</sup> well stalked, R<sup>2</sup> very characteristic, M<sup>1</sup> approximated to R<sup>3</sup>.

Type of the genus: *Leptocolpia viridicatena* sp. nov.

Differs from *Bathycolpodes* (which it should precede) in the pectinate antenna, narrower wings, separation of M<sup>1</sup> of both wings, &c.

9. *Leptocolpia viridicatena* sp. nov.

♂, 26 mm.

Face black. Palpus black, the basal joint drab. Vertex and front of thorax white. Antennal shaft white, pectinations ochreous. Thorax and abdomen mostly concolorous with wings, patagia mostly green, a slight ochreous (possibly discoloured from green) dorsal patch at base of abdomen. Fore wing deep fleshy (a blend of pink, ochreous and white scales), with olive-grey irroration or strigulation; in front of cell paler, in front of subcostal stalk and SC<sup>4</sup> mottled with darker gray; cellspot larger than a dot, black-grey; antemedian line faintly suggested in white, curved; postmedian fine, white, excurved anteriorly, then oblique inwards; an irregular subterminal white line rather near the postmedian, from costa to R<sup>3</sup> enlarged into interneural spots, between the radials incurved, at R<sup>3</sup>—M<sup>1</sup> strongly excurved, behind fold slightly oblique inwards; between the postmedian and subterminal, from SC<sup>4</sup> to hindmargin, a series of green spots, finely divided by veins of the ground-colour; a series of anteterminal white spots, except at R<sup>2</sup>—M<sup>1</sup>, where there is a longitudinal browner area; between the subterminal and anteterminal spots the colour is green from costa to R<sup>1</sup> and irregularly banded with purple-grey between R<sup>3</sup> and hindmargin; terminal spots irregular, blackest between M<sup>2</sup> and SM<sup>2</sup>; fringe white, with various mottlings. Hind wing to beyond middle with ground-colour as fore wing, becoming green-mixed at end (especially posteriorly) and basewards along abdominal margin; cellspot as on fore wing; a broad white postmedian band, slightly incurved between the radials, then slightly constricted by a small projection of the green shade between R<sup>3</sup> and M<sup>1</sup>; a narrower, somewhat macular antimarginal band; area between the bands rather densely irrorated with grey; terminal line olive-brownish; fringe as on fore wing. Underside more densely irrorated with darker grey, especially on the dark cellspot and two white outer bands.

Madagascar. Type received through Le Moul't.

Very distinct from all known species; in some respects recalls a diminutive, narrow-winged *Archichlora* (*Chloroteras*) *devoluta* Walk.

10. *Hemidromodes sabulifera* sp. nov.

♀, 20 mm.

Head, body and wings whitish, with sandy irroration, of a slightly brighter tone than that of *Neromia pulvereisparsa* Hmps. but less

copious; the face (except a narrow lower part, which remains white), third joint of palpus and inner side of fore leg much more densely irrorated, looking almost concolorous, a fillet between the antennæ clearer white. Antennal pectinations about two. Hind tibia with terminal spurs only.

Fore wing with two indistinct dark lines, chiefly expressed by dots on the veins and by the absence of irroration on their reverse edges; antemedian at nearly one-third, excurved; postmedian from three-fourths costa to hindmargin near tornus, very gently (scarcely) excurved in the greater part of its course, slightly incurved behind  $M^2$ , noticeably projecting on  $SM^2$ . Hind wing with only the postmedian line, which is rather more proximally placed than on fore wing and is somewhat inbent at both folds, recalling that of *Neromia pulvereisparsa*.

Underside paler, unmarked.

Deesa (Disa), October 1899 (G. G. Nurse).

I think this is quite distinct from both the African species (*robusta* Prout and *affinis* Rothschild). Larger than *affinis*, of a quite different colour (unless this be due to discoloration), the postmedian line of both wings rather more distally placed, the hind wing with abdominal margin relatively slightly longer. Fore wing with both  $R^1$  and  $M^1$  well stalked, hind wing with  $M^1$  rather long-stalked.

#### Subfamily STERRHINAE.

##### 11. *Anisodes renifera* sp. nov.

♂, 24 mm.

Like *A. renistigma* Prout (Ann. Mag. Nat. Hist. (8) vi. 241), from E. Peru, except as noted. Hind tibia rough-scaled proximally, not throughout. The "rosy purple" markings in part more tinged with black. Face with a line of spots at extreme upper edge (foreshadowed, however, in *renistigma*, though overlooked in original description). Abdomen with a pair of ill-defined subdorsal spots at posterior end of first segment and a weaker mediodorsal one on second; from fourth segment onwards strongly tinged with roseate.

Fore wing rather less broad; slightly paler; costal margin a little greyer; median line more deeply lunulate in posterior half. Hind wing with median line lunulate-dentate instead of straight.

French Guiana: Godebert Maroni, September. Ex coll. Brabant.

♀. 28 mm. Rather larger, third joint of palpus very long.

“British Guiana.” Allotype ex coll. Druce.

The British Museum has a ♀ aberration from La Chorrera, Panama, April 1 to May 15, 1898 (C. H. Dolby Tylor) with the cellspot of hind wing nearly filled with black.

Both this and *renistigma* belong to the *urcearia* group, with  $M^1$  of hind wing closely approximated at its origin to  $R^3$ .

12. *Ptochophyle definita* sp. nov.

♀, 25 mm.

Face almost entirely overlaid with red. Palpus very short, ochreous on inner side, red on outer. Vertex ochreous, weakly overlaid with reddish. Antenna ochreous, above strongly reddened proximally. Thorax and abdomen pale ochreous, somewhat irrorated (above strongly suffused) with red. Legs strongly mixed with red, fore leg on inner side almost wholly red.

Fore wing not broad, termen straight and not very oblique from apex to  $M^1$ , very oblique from  $M^1$  to tornus; yellowish ochreous with coarse red irroration; a rather broad chocolate costal margin, triangularly expanding a little at origin of median line, gradually narrowing to apex, being bounded by  $SC^4$ ; antemedian line thick and chocolate coloured in cell, where it is slightly oblique outward, posteriorly slender and red, sinuate inward at fold, oblique outward to hindmargin; median line deeper chocolate, almost blackish, very straight and firm, arising just proximal to the cellmark, somewhat oblique inward to hindmargin proximally to the middle, continued across hind wing, reaching abdominal margin somewhat beyond the middle; cellmark elongate, equally dark; postmedian reddish, arising at about two-thirds, mixed with chocolate anteriorly, slightly angulated outward at  $R^1$ , lost at  $M^1$ , reappearing more proximally behind  $M^1$  near its base and running irregularly and indistinctly to an oblique darker mark at hindmargin near tornus; a highly sinuous dark chocolate line from five-sixths costa, oblique outward, thickened at  $R^2$ , merged with the terminal between  $R^3$  and  $M^1$ , reappearing as an irregular tornal triangle with thickened apex and a spot of the ground-colour at its base; terminal line dark chocolate; fringe olive-grey, at base reddish chocolate. Hind wing with termen strongly gibbous, the projection at  $R^3$  to  $M^1$  somewhat accentuated by an otherwise scarcely noticeable



sinuosity in front of  $R^3$ ;  $SC^2$  very shortly stalked,  $M^1$  connate; median line followed by an oval white cellspot; postmedian fine, reddish, sinuous, rather strongly outbent in middle; subterminal line not differentiable; terminal line thick and sending out an acute tooth on  $M^2$ ; fringe as on fore wing.

Underside mostly paler, but the fore wing with strong red suffusion in cell; margins red instead of chocolate; markings reproduced but less sharply defined.

Mahatsinjo, near Tananarive, Madagascar.

Very distinct from any species known to me. Has a few points in common with *rubida* Swinh. (Tr. Ent. Soc. Lond. 1904, p. 501) but—apart from many other differences—quite unlike in shape.

13. *Tricentra flavitornata* sp. nov.

♂, 17 mm.

Head and body flesh-colour, paler beneath than above, the vertex and front of thorax suffused with olive-grey. Palpus deep rosy on outer side. Antennal shaft proximally rosy. Fore leg partly rosy.

Fore wing with termen very strongly curved behind middle, so as to become extremely oblique posteriorly (not far short of parallel with costa); pale primrose-yellow with rosy reticulate markings, formed (as in *brunneomarginata* Warr.) by rosy veins and several irregular, strongly waved transverse lines; cloudings of olive-grey at base, along costal region, and in two irregular oblique bands, the first crossing the discocellulars and bifurcating broadly behind, enclosing a clear yellow semi-circle at tornus, the second subapical; both cellspots white; the anterior smaller and more obscured than the posterior. Hind wing elongate, the termen being very strongly gibbous; concolorous with fore wing; both cellspots rather large and clear, with fine olive-grey circumscription; no olive-grey clouds at base, costa, nor across DC; a terminal half-band of olive-grey from apex to near  $R^3$  and an irregular tornal patch, the two narrowly connected along termen; minute yellow marks at extreme termen.

Underside paler, with no definite pattern, in places (especially in costal region of fore wing) with pinkish suffusion; the olive-grey markings of the upperside and the white cellspots feebly suggested.

French Guiana: Godebert Maroni, October. Type ex coll. Brabant.

Easily distinguished by the shape and markings.

14. *Problepsis plenorbis* Prout ♂.

This fine species was described (Nov. Zool. xxiv, 309) from a unique ♀ in the Tring Museum. Mr. Joicey has now obtained a good ♂ from Lebong Sandai, Benkoelen, S.W. Sumatra. This enables me to describe the coloration of the head (lost in the type) and to give the ♂ characters, which latter show the affinities to be rather with *appollinaria* Guen. than—as I had suspected—with *conjunctiva* Warr.

Face dirty white, in upper half suffused with dark grey, which is strengthened into a large black spot at each side of upper part; palpus black above, white beneath, with a small intermediate area of brownish, which usurps most of the lower part of the short terminal joint; crown black, very narrowly white in front; antennal shaft and pectinations dark brown (distinctly darker than in *vulgaris* Butl.), the pectinations nearly as long as in *appollinaria*, extending about to the 38th joint; ♂ hind tibia strongly dilated, with hair-pencil, proximal part more strongly fringed than in *appollinaria*, tarsus less extremely abbreviated, measuring about one-third of tibia.

15. *Scopula elwesi* sp. nov.

♂, 27 mm.

Face with slight prominence below middle, appressed scaled; chestnut with some blackish irroration. Palpus with rather long projecting scales, slightly transitional towards those of *Oar*; ochreous, streaked with blackish along outer side. Vertex, collar and antenna ochreous with some black scales. Antennal joints somewhat projecting, with slender fascicules of cilia rather longer than diameter of shaft. Thorax and abdomen above pale, with very heavy black irroration, only the abdominal incisions and anal end freer therefrom; abdomen with a lateral stripe of ochreous, the venter pale, with sparse irroration. Coxae and femora ochreous, with much black admixture on upper and inner sides (the hind leg least so), tibiae and tarsi pale; hind tibia not dilated, with a pair of well-developed terminal spurs; hind tarsus not abbreviated. Wings not very broad. Fore wing whitish cream-buff, sparse black-grey irroration (at base denser); markings tawny ochreous; fore wing with some suffusion in proximal half, especially near base; antemedian and median lines rather straight, the latter enclosing the slightly elongate black celldot; post-median from three-quarters costa to beyond two-thirds hindmargin, very slightly incurved between the radials and dentate outward on  $R^3$  and  $M^1$ ; proximal subterminal thick, nearly

parallel with postmedian, distal wanting; subterminal line fine, not sharp grey, interrupted at the veins; fringe light ochreous. Hind wing with  $SC^2$  minutely stalked with  $R^1$ ; colour and markings as on fore wing, but without so much ochreous suffusion proximally and with antemedian line wanting; median shade just beyond celldot. Under-side similarly but less sharply marked.

Bashkars River, just north of Lake Taletskoi, Altai, July 26, 1898 (H. J. Elwes). Type ex coll. Elwes.

Very distinct from any hitherto known species of the *Pylarge* section. There is a bare possibility that *anaitaria* Herz, described from the ♀ and unknown to me, may prove the same, but this is extremely unlikely both from the description and from the locality (Lena-Vilyui District).

16. *Ptychopoda (Xenocentris) trisetata* sp. nov.

♂, 16 mm.

Face blackish-fuscous. Palpus slender, fuscous. Vertex white. Antennal joints triangular, the ciliation rather long (damaged in the type). Collar tinged with ochreous. Thorax, abdomen and legs light bone-colour, the fore leg somewhat darkened on upper and inner sides. Mid-tibia with moderately strong fringe of long hair on upper side. Hind tibia dilated, the femoro-tibial pencil light brown, fringe of upper side and the distal tuft whitish, the latter reaching to near the end of the tarsus, which when freed from its covering is seen to be not greatly shorter than the tibia.

Wings slightly narrower than in *biselata* Hufn. (= *biselata* auct), in colour and markings almost identical with that species, the dark markings rather weak, the celldots minute and sharp. Fore wing with some slight shading proximally but with no clearly differentiated antemedian line; median shade obsolescent anteriorly, fairly broad behind the celldot; postmedian line fine, slightly straighter and slightly more proximal than in *biselata*; distal shades rather uniform, with the pale undulate subterminal broad; no terminal line; fringe narrowly yellowish-tinged proximally, then more greyish. Hind wing with termen appreciably bent—though not angled—at  $R^3$ ; markings corresponding to those of fore wing. Fore wing beneath rather more suffused, hind wing rather whiter, with the subterminal dark shades somewhat narrowed.

Shinano, Japan, the type label "2. 11. '15," probably a clerical error for 2. ix. 15, the date assigned to the paratype. Also a short

series in coll. Tring Mus. merely labelled "Japan." Probably not uncommon but overlooked on account of its close superficial resemblance to minute *biselata* or *invalida*. The only hitherto known Japanese species of the section *Xenocentris* is *effluvaria* Christ.

Subfamily LARENTIINAE.

17. *Coenotephria acme* sp. nov.

♂, 27 mm.

Head and body brown-grey, mottled with white and with some dark irroration; metathoracic tuft mostly white. Palpus scarcely  $1\frac{1}{2}$ ; beneath mostly whitish. Antenna somewhat thickened proximally, closely lamellate, pubescent. Legs mostly darkened, extremities of joints white.

Fore wing rather elongate, costa arched posteriorly, apex moderately sharp, termen slightly curved, oblique;  $R^1$  connate or just separate; glossy; basal patch and median band black-brown with a slight vinous admixture, margined by white lines; the subbasal white line excurved in middle, slightly indented at  $SM^2$ ; succeeding area white, transversed by three irregular, incomplete, in places confluent lines which arise from two black-brown costal spots, the first line remaining black-brown, the other two mostly vinous, with slight dark irroration; antemedian line at about one-third with a small proximal projection at M and strongly oblique inward from fold to  $SM^2$ ; cell-dot moderately large, black, surrounded or followed distally by some pale scaling; postmedian at or beyond two-thirds (median area variable in breadth), very acutely produced on  $R^3$ , strongly incurved or inbent behind, the band consequently much constricted behind  $M^2$ ; area beyond postmedian white, transversed by two lines analogous to those preceding the antemedian, but with the distal the darker; distal area mostly dark-coloured, especially proximally to the subterminal, which is slender, slightly interrupted, cut by a conspicuous oblique white posteriorly dark-edged streak from apex; dark interneural spots between subterminal and termen, terminal line broken into short dashes; fringe weakly chequered, and with a whitish line at base. Hind wing elongate costally, termen slightly vinous; pale, with a fleshy or vinous tinge, the markings of underside feebly indicated. Fore wing beneath more suffusedly marked than above. Hind wing beneath rather strongly marked; proximal half with some dark shading and some wavy lines; a black cell-dot; a broad

and strong postmedian line, incurved at  $R^2$ , lobed outward at  $R^3$ ; a whitish band beyond; terminal area darkened, bearing a darker but ill-defined subterminal band.

Madagascar: Tananarive, type and paratype ♂ (ex coll. Brabant). A third example merely labelled Madagascar.

#### Subfamily GEOMETRINAE.

##### 18. *Nothabraxex barlowi* sp. nov.

♀, 61 mm.

Head mostly black, the palpus beneath (and perhaps the face, which is somewhat damaged) with some ochreous hair. Thorax mottled, black and creamy white. Abdomen robust, orange with black spots and broken belts, much as in *commaculata* Warr.; ovipositor long. Legs predominantly black, the hind tibia in its proximal part pale ochreous and with the spurs partly of the same colour.

Fore wing black, with three large cream-white patches, which contain some irregularly (and somewhat asymmetrically) placed black spots or large dots; a basal patch about as in *commaculata* Warr. (about 9 mm. long in middle, irregularly rounded distally); a costal patch about 6 mm. long anteriorly, irregularly narrowing and ending in a black point at M, containing the elongate cellmark, its other black spots mainly costal; a narrow patch midway between end of cell and termen, commencing at  $R^3$  and ending just behind fold. Hind wing light orange-ochreous, its proximal hair darker; small irregular and asymmetrical black spots beyond middle, chiefly at costa and on tornal one-fifth of wing; a narrow black border, commencing at apex and tapering to a point behind  $R^3$ , but with a slight proximal projection at the radial fold; one or two small spots of the ground-colour in this border; fringe anteriorly black, then chequered (at tornus predominantly ochreous). Underside similar, but with the patches on the fore wing more ochreous.

Nyasaland: Chikala, near Lake Shelwa, February, 1920 (H. Barlow).

Apart from its larger size and orange hind wing, this species differs markedly from *commaculata* in the black apical region of both wings.

##### 19. *Pitthea hypomima* sp. nov.

♂, 42 mm.

Face white, the overhanging hair above and at sides black. Palpus black, narrowly whitish beneath. Vertex and antenna black. Thorax

above black, beneath mixed with yellow. Legs grey, the coxae and femora beneath white. Abdomen black-grey, with two rows of lateral white spots and with the venter yellow.

Fore wing black with two yellow bands placed nearly as in *continua* Walk., but of a deeper, more golden hue; first band moderately broad, with distal indentations on M and SM<sup>2</sup>, not reaching costa, in front of SC (which remains narrowly black) only represented by a narrow wedge, with long-produced baseward point, succeeded by interrupted yellow scaling almost to base; outer band very small, anteriorly not reaching SC<sup>5</sup>, posteriorly tapering to a point at R<sup>3</sup>, but succeeded by a large dot behind R<sup>3</sup>. Hind wing black, in abdominal region more olive-brownish; a rather broad band much as in *continua*, but not followed by orange spot at termen; no orange spot at apex.

Fore wing beneath with the yellow bands a little lighter and more extended distally, then much broader, the outer continuous from SC<sup>5</sup> to M<sup>2</sup> near termen; proximal band almost reaching costa and with a large extension to the base, leaving black the costal edge, the area behind the cell, and some slight marks at the base of C and in cell behind proximal part of SC; a white spot at base of subcostals and three subapical white spots, the middle one (between SC<sup>5</sup> and R<sup>1</sup>) the longest. Hind wing beneath predominantly yellow, looking more olivaceous where the black parts of the fore wing show through; a black spot between the medians at their origin; some irroration before fold and a streak behind; distal border black, at costa and behind M<sup>1</sup> broadly, in middle very narrowly; three white subapical spots and a fourth (equally subterminally) between the medians.

Cameroons: Bitje, Ja River, 2,000 feet, wet season, April to May, 1912 (G. L. Bates).

The underside is totally different from that of the *continua* Walk. group, rather recalling that of *cunaxa* Druce.

20. *Callioratis abraxas* (Feld.) *grandis* subsp. nov.

♀, 84 mm.

Apart from its much larger size, differs from *a. abraxas* Feld. ♀ (Reise Novara, tab. c. fig. 18) in having the terminal black spots of the hind wing larger anteriorly than posteriorly, whereas in the Natal race they become smaller anteriorly, or the apical one may be entirely wanting. Other differences appear inconstant.

Mlanje, Nyasaland. Type and paratype in coll. Joicey.

21. *Melinoëssa (Hyphenophora) aemonia* (Swinh.) *restrictiflava* subsp. nov.

Before describing this race it is necessary to amend Swinhoe's description of the name-type (Trans. Ent. Soc. Lond. 1904, p. 498). At the commencement the word "face" has dropped out, and it is not noticed that the central band has a mixture (sometimes fairly strong) of bright ferruginous scales. The "distorted band" is pale yellow, not white. The "dark suffusion" distally to this is an ill-defined brown band, occupying on the hind wing the proximal half of the area between this and the subterminal line; the latter consists on both wings of a series of dark intraneural dots, connected on the hind wing by an ill-defined brown line.

*M. aemonia restrictiflava* has the central band of the face often almost entirely ferruginous; yellow marking of the fore wing narrower, only present between  $M^2$  and  $SM^2$  (without the anterior "dots towards the apex" and without spots in cellule 3 and at abdominal margin), rather more distally placed and slightly less oblique; that of the hind wing narrower and shorter, only developed from costal margin to radial fold; the brown band beyond it a little lighter or brighter; subterminal dots with more noticeable glossy band proximally.

In addition the fore wing may be slightly less acute at apex and the hind wing has a less marked tooth at the extremity of  $SC^2$ .

Cameroons: Bitje, Ja River.

A series including the type, also in other collections. The same race reaches from Gold Coast to Belgian Congo.

In the restriction of the yellow band this subspecies superficially recalls *palumbata* Warr. (Nov. Zool. i, 402, Ivory Coast to Nigeria), which has the brown band narrower, adjoining the subterminal leaden spots, which are differently developed, &c.

22. *Pycnostega* (?) *leucochora* sp. nov.

♂, 32 mm.

Face and palpus blackish. Head and body inclining to black; some scattered whitish scales. Hind tibia dilated, with a groove containing the hair-pencil.

Fore wing without fovea; proximally, costally and distally dull chocolate-brown, varied with darker and lighter scales and with a sparse sprinkling of metallic bluish-silvery ones; a broad creamy-white median area, with scattered shining-white scales; the proximal boundary of

this area arises at hindmargin before one-third, is very oblique and slightly sinuous to anterior extremity of cell, where it touches (without absorbing) the dark celldot; the anterior boundary runs from this point to the base of SC<sup>5</sup>; the distal from this point to hind margin at about three-fourths, bluntly angulated outwards in middle and slightly excurved at hind margin; terminal line complete, strongly thickened midway between the veins. Hind wing with the white median area considerably broader and reaching costal margin, the dark basal area small, the distal area narrower than on fore wing, with corresponding angle and curve in middle and at hind margin; this area somewhat more mottled, with a suggestion of round dark interneural spots and of pale lunules edging proximally the terminal lines.

Underside similar, but with no metallic scaling; a small additional white patch at base of fore wing.

French Gaboon.

By the scaling and general conditions (palpus, venation, &c.) this seems referable provisionally to *Pycnostega*, in spite of absence of fovea; the antennal pectinations, though strong and close, are less extreme than in the type species (*obscura* Warr., Nov. Zool. xii, 394).

23. *Pycnostega* (?) *stilbia* sp. nov.

♀, 30 mm.

Antenna bipectinate with very short branches. Palpus blackish. Face, vertex and upperside of body blackish, sprinkled with metallic light-blue scales. Underside of body browner, with less metallic scaling.

Fore wing considerably broader than in typical *Pycnostega* (more *Zamarada*-shaped); ground colour nearly as in the preceding species, but clouded nearly throughout with blackish, thus appearing considerably darker; the metallic blue scales rather more copious; median band narrow, tapering at costa, otherwise nearly uniform in width (circ. 2.5 mm.), slightly outbent in middle, very pale yellow with copious metallic whitish scales and traversed in middle by a thick, sinuous golden line; distal area with crenulate pale (metallic-scaled) lines, the two outer nearly meeting between the veins; terminal line as in the preceding species. Hind wing similar, the median band continued, not tapering costally, its golden line less strongly sinuous, distal area with three pale lines, the two proximal meeting on the veins, the third distal between the veins.

Underside without metallic scaling, the median band yellower, the



central line only suggested by some ill-defined scaling of a rather deeper shade.

Cameroons : Bitje, Ja River, October, wet season (G. L. Bates).

Curiously similar to *Peratophyga trigonata* Walk. (from Borneo), except for the lack of luteous vertex, front of thorax and base of costa ; Walker does not notice the golden central line of the luteous band, but it is present in his species.

#### Family DIOPTIDAE.

##### 24. *Phanoptis miltorrhabda* sp. nov.

♂, 40 mm.

Head and body black, with a tinge of brown.

Fore wing moderately elongate, but rather fuller in the anal region than in typical *Phanoptis* ; black, proximally and posteriorly with a tinge of brown ; a very oblique red band of about 2 mm. width from middle of C, crossing the base of SC<sup>1</sup> and the whole of DC<sup>4</sup> and terminating just beyond M<sup>2</sup> near termen ; SC, SC<sup>1</sup> and M<sup>2</sup> somewhat blackened on the band, which moreover is slightly indented with black distally at the other veins ; a slightly curved row of three small slightly hyaline whitish spots between SC<sup>5</sup> and R<sup>3</sup>, the last the smallest and weakest. Hind wing black with a tinge of brown.

Underside similar, the fore wing paler at hindmargin, the red band a little broader and paler.

Peru : Chanchamayo.

Referable to *Phanoptis* by my "Key" (Nov. Zool. xxv, 396) and by no means unsuitable there in spite of the more opaque scaling and slightly less elongate wings, with the cells less narrowed at their extremities. Evidently drawn off by mimetic association with the butterflies *Actinote erinome* Feld. and *Eresia castilla* Feld.

##### 25. *Myonia euryzona* sp. nov.

♂, 32 mm.

Structure and general coloration of head and body as in *leechi* Prout ; abdomen above much less vividly shot with blue.

Fore wing shaped as in *leechi*, or slightly more elongate still ; proximal area black, with the principal veins slightly dusted with capucine yellow ; a capucine yellow central band, 4 or 5 mm. wide,

from C just proximal to the middle to SM<sup>2</sup> close to tornus; distal area black.

Hind wing black, shot—except at margin—with blue, rather less vivid than in *leechi*; a narrow whitish costal streak, becoming capucine yellow and broadening into an apical spot which reaches R<sup>1</sup> but leaves SC<sup>2</sup> dark.

Fore wing beneath with a whitish longitudinal streak in cell, some orange scaling anteriorly thereto; the yellow band slightly broadened in middle, its margins being more convex. Hind wing beneath not shot with blue, but with a whitish streak (broadening distally) behind M and the proximal part of R<sup>3</sup> and a shorter and slighter one posteriorly; costal and hind area nearly as above, the apical spot without dark dusting.

E. Bolivia: S. Julian, Chiquitos, 400 miles, May (J. Steinbach).